U.S. GEOLOGICAL SURVEY

BIBLIOGRAPHY OF SELECTED REPORTS ON USGS INTERNATIONAL COAL-RELATED ACTIVITIES

by

John R. SanFilipo¹ and Peter D. Warwick¹

Open-File Report 98-530

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

¹USGS, 956 National Center, Reston, VA 20192

CONTENTS

p	age
Introduction	1
Citations listed by country/area	2
Africa (general)	2
Antarctica	2
Armenia	2
Australia	4
Bangladesh	4
Canada	.5
Central America (general)	6
Costa Rica	6
Czech Republic	8
Haiti	8
India	8
Indonesia	9
Kyrgyzstan	10
Mauritania	11
New Zealand	.11
Nigeria	.12

CONTENTS (cont.)

	page
Palau	12
Pakistan	12
Peoples Republic of China	24
Philippines	25
Poland	25
Russia	26
Serbia	26
South America (general)	. 27
Sudan	27
Thailand	27
Turkey	28
Ukraine	28
Yugoslavia (former)	28
World Coal	29

Introduction

This report is intended to provide a systematic listing of more recent papers and reports by the U. S. Geological Survey (USGS) that focus on coal occurrences outside of the United States. Included herein are bibliographic entries listed by country or region for papers and reports that include one or more USGS authors and deal primarily with coal or coal-bed methane. Also included are selected topical studies conducted by coal scientists on other, usually disseminated, organic and related geologic materials, and selected regional geologic studies conducted in conjunction with USGS international coal activities. Not included are studies on oil and gas (except source rock investigations of coal) and oil shale. Selected USGS international petroleum investigations are cited in Masters (1994).

This report generally contains citations from the mid-1980's through papers in press as of June 1998. Earlier papers for some countries are included if they are particularly relevant to later or on-going work. Included in this listing are some administrative reports that may not have been published as formal reports or that may have been issued by cooperating agencies. In some cases availability of these reports is limited to copies on file. Although this compilation is comprehensive, some reports may have been omitted inadvertently, and in a few cases, less significant or redundant citations were intentionally omitted. This bibliography can be updated with entries posted after June 1998 by visiting the searchable publications database on the USGS Eastern Energy Team home page at http://energy.er.usgs.gov or the USGS Geologic Division home page at http://geology.usgs.gov.

A preliminary version of this report was originally distributed on an informal basis in conjunction with a paper (SanFilipo and Warwick, 1995) presented at the Tenth V.E. Mckelvey Forum on Mineral and Energy Resources: *Energy and the Environment - Application of Geosciences to Decision-Making*, held in Washington D.C., in February of 1995.

REFERENCES CITED

Masters, C.D., 1994, Bibliography of The World Energy Resources Program: U.S. Geological Survey Open-File Report 94-556.

SanFilipo, J.R., and Warwick, P.D., 1995, International coal-related studies of the U.S. Geological Survey, and their environmental applications, *in* Carter, L.M.H., ed., Energy and the environment - application of geosciences to decision-making, Program and short papers, Tenth V.E. Mckelvey Forum on Mineral and Energy Resources, 1995: U.S. Geological Survey Circular 1108, p. 75 – 77.

LIST OF REPORTS BY COUNTRY/AREA

AFRICA (general)

- Brownfield, M.E., and Weaver, J.N., 1992, Paleogeography and stratigraphy of Cretaceous coal deposits of North Africa, *in* McCabe, P.J., and Parrish, J.D., eds., Controls on the distribution and quality of Cretaceous coals: Geological Society of America Special Paper 267, p. 369 383.
- Mattick, R.E. (compiler), 1982, Assessment of the Petroleum, coal, and geothermal resources of the Economic Community of the West African States (ECOWAS) Region: U.S. Geological Survey Open-File Report 82-714.
- Tuttle, M.L., 1997, U.S. Geological Survey Studies in Sub-Sarahan Africa: U.S. Geological Survey Fact Sheet 053-97, 1 p., 3 figs.
- Weaver, J.N., Brownfield, M. E., and Bergin, M.J., 1990, Coal in sub-Saharan African countries undergoing desertification, Journal of African Earth Science, v. 11, no. 3/4, p. 261 271.
- Weaver, J.N., and Landis, E.R., 1990, Coal and peat in the sub-Saharan region of Africa, alternative energy options?, Natural Resources Forum, v. 14, no. 1, p. 64 69.

ANTARCTICA

- Coates, D.A., Stricker, G.D., and Landis, E.R., 1988, Permian coal in the Transantarctic Mountains, Antarctica--quality and quantity [abs.]: American Association of Petroleum Geologists Bulletin, v. 73, n.3, p. 34
- Coates, D.A., Stricker, G.D., and Landis, E.R., 1990, Coal geology, coal quality, and coal resources in Permian rocks of the Becon Supergroup, Transarctic Mountains, Antarctica, *in* Splettstoesser, J.F., and Dreschoff, G.A.M., eds., Mineral Resources Potential of Antarctica: Antarctic Research Series, v. 51, p. 133-162.

ARMENIA

Maldonado, Florian, Warwick, P.D., Pierce, B.S., Thomas, J.C., Tutunjian, Mels, and Chubarian, Grachik, 1996, Geologic map and structural domains of Armenia [abs.]: Geological Society of America, Abstracts with Programs, v. 28, no. 7, p. A-443.

- Pierce, B.S., 1998, Interim report of the USGS Coal Exploration and Resource Assessment of Armenia Program, U.S. Geological Survey Open-File Report 98-368, 14 p.
- Pierce, B.S., Amazaspian, Hamlet, and Tewalt, S.J., 1996, Comparison of coal resource methodology of the Republic of Armenia (former USSR) and the U.S. Geological Survey: *in* Shaio-Hung Chiang, ed., Coal -Energy and the Environment, Thirteenth Annual International Pittsburgh Coal Conference, September 3-7, 1996, Proceedings: University of Pittsburgh Center for Energy Research, v. 1, p. 168-171.
- Pierce, B.S., and Martirossian, Artur, in press, Coal use in Armenia [abs.]: Geological Society of America Abstracts with Programs, v. 30.
- Pierce, Brenda, Martirossian, Artur, Amazaspian, Hamlet, and Kochinian, Gohar, 1997, The coal resources of Armenia, *in* Fourteenth Annual International Pittsburgh Coal Conference, September 23-27, 1997, Taiyuan, Shanxi, Peoples Republic of China, Proceedings: University of Pittsburgh, CD-ROM, session 07, 5p. [also published in Proceedings of the First International Energy Conference in Armenia Energy Efficiency, July 27-31, 1998, Yerevan: International Association of Energy Engineers, p. 182-187, synopsis in Russian]
- Pierce, B. S., Martirossian, Artur, and Malkhassian, Gourgen, in prep., Coal in Armenia: to be submitted to International Journal of Coal Geology.
- Pierce, B.S., Warwick, P.D., and Landis, E. R., 1994, Assessment of the solid fuel resource potential of Armenia: U.S. Geological Survey Open-file report 94-149, 88 p.
- Pierce, B.S., Warwick, P.D., and Landis, E.R., 1994, The coal resource potential of Armenia, *in* Proceedings of the 2nd National Energy Conference Meeting, May 1994, Yerevan, USDOE.
- USGS, in prep., Satellite Image Map of Armenia and surrounding region: U.S. Geological Survey Miscellaneous Investigations Map I-2665, scale 1:250,000, two sheets.
- Warwick, P.D., Maldonado, F., Tutunjain, M., Chubarian, G.A., and Brutain, H, in prep., Geologic Road Log from Ijevan to Dilijan, and other field notes related to the Jurassic coal deposits of Northeastern Armenia: USGS Open-File Report 98-358, 20 manuscript p.
- Warwick, P.D., Maldonado, Florian, Pierce, B.S., Tutunjian, Mels, Chubarian, Grachik, and Brutain, Haik, 1996, A volcanogenic depositional model for a thick Jurassic coal-bearing interval, Lessor Caucasus, Armenia [abs.]: Geological Society of America, Abstracts with Programs, v. 28, no. 7, p. A-209.
- Warwick, P.D., Pierce, B.S., and Landis, E.R., 1993, A preliminary review of the coal exploration activities conducted by the Government of Armenia and the coal resource potential of Armenia: U. S. Geological Survey Open-File Report 93-681, 17p.

AUSTRALIA

- Barker, C.E., Bone, Y., and Marshallsea, S.J., 1996, Paleotemperature and heating duration studies next to dikes, western onshore Gippsland Basin, Australia [abs.]: American Association of Petroleum Geologists Annual Convention Official Program, v. 5.
- Barker, C. E., Lewan, M. D., Bone, Y., and Marshallsea, S. J., 1996, Paleotemperature and hydrous pyrolysis studies of petroleum generation next to dikes, western onshore Gippsland basin, Australia: 13th Annual Meeting of The Society for Organic Petrology, Abstracts and Program, v. 13, p. 41-43.

BANGLADESH

- Bostick, N.H., Betterhorn, W.J., Gluskoter, H.J., and Islam, M.N., 1991, Petrology of Permian "Gondwana" coals from boreholes in northwestern Bangladesh, based on semiautomated reflectance scanning: Organic Geochemistry, v. 17, no. 4, p. 399-413.
- Kleinkopf, M.D., and Whitney, J.W., 1991, Bangladesh-Results of a 10-yr program: U.S. Geological Survey Yearbook, Fiscal Year 1990, p. 80-81.
- Landis, E.R., 1991, Coal Geology, Final administrative report, in, Accelerated exploration for mineral resources and modernization of geological survey of Bangladesh, Phase II, Chapter E, Review and recommendations by USGS under agreement III, workplan IV, (1989-1990):
 U.S. Geological Survey administrative report (IR)BG-8.
- Landis, E.R, and Islam, M.N., 1989, Coals of Bangladesh [abs.]: Geological Society of America, Abstracts with Programs, v.21, no.6, p.
- Landis, E.R., Islam, M.N., and Gluskoter, H.J., 1990, Quality of Permian coal, Khalaspir, Bangladesh [abs] in Carter, L.M.H. (ed.), USGS Research on Energy Resources 1990: Sixth V.E. McKelvey Forum on Mineral and Energy Resources: U.S. Geological Survey Circular 1060, p. 47-49.
- Landis, E.R., Islam, M.N., and Gluskoter, H.J., 1992, Chemical and physical characterization of Permian (Gondwana) coal of the Khalaspir coal field, Bangladesh [abs.]: Abstracts, First South Asian Geological Congress, Islamabad, Pakistan, February 23-27, p. 25-26.
- Landis, E.R, Islam, M.N., Gluskoter, H.J., Bostic, Neely, Rahman, Q.M.A., and Abdullah, S.K.M., 1991, Contributions to coal geology of Bangladesh: U.S. Geological Survey Project Report, Bangladesh Investigation (IR)BG-9, 132 p.
- Schopf, J.M., 1967, Petrologic examination of East Pakistan peat: U.S. Geological Survey Technical Letter Pakistan Investigations PK-29, 14 p.

CANADA

- Koeppen, R.P., Finkelman, R.B., and Mukhopadahyay, P.K., in press, Characterization of a channel sample of the Phalen Coal Bed, Sydney, Nova Scotia [abs.]: The Society for Organic Petrology 15th annual meeting, July 26-30, 1998.
- Lyons, P.C., Cross, A.T., Gao, Z., Gillis, K., Calder, J.H., Zodrow, E.L., and Congdon, R.D., 1993, Discovery of in-situ carbonate petrifications (coal balls) in the Foord Seam (Westphalian C., upper Carboniferous), Stellarton, Nova Scotia, Canada: Implications for origin of sulfur in the Foord Seam [abs]: American Association of Petroleum Geologists Bulletin, v. 77, no. 8, p. 1471.
- Lyons, P.C., Millay, M.A., Zodrow, E.L, Cross, A.T., and Gillis, K.S., 1995, Discovery of permineralized plant fossils (coal balls) in the Bolsovian (e.g. Westphalian C) (Middle Pennsylvanian, Upper Carboniferous), Stellarton Basin, Nova Scotia, Canada: Canadian Journal of Botany, v. 73, p.1407-1416.
- Lyons, P.C., Millay, M.A., Cross, A.T., and Zodrow, 1997, Discovery of mineralized plants (coal balls) in the Foord seam (Bolsovian, ex Westphalian C), Stellarton Basin, Nova Scotia, Canada: Proceedings of the 4th European Palaeobotanical and Palynological Conference (Heerlen/Kerkrade, Netherlands, September, 1994), Herngreen, G.F.W., ed., p.43-51.
- Lyons, P.C., Orem, W.H., Mastalerz, M., Zodrow, E.L., Vieth-Redemann, A., and Bustin, R.M., 1995, 13C NMR, micro-FITR, and fluorescence spectra and pyrolysis-gas chromatograms of coalified foliage of late Carboniferous medullosan seed ferns, Nova Scotia, Canada: Implications for coalification and chemotaxonomy: International Journal of Coal Geology, v.27, p. 249-278.
- Lyons, P.C., and Zodrow, E.L., 1997, eds., Euramerican Carboniferous Paleobotany and Coal Geology, Proceedings of the 1st Walter A. Bell Memorial Symposium, Sydney, Nova Scotia, Canada, May 18-June 1, 1995: Review of Palaeobotany and Palynology (special issue), v. 95, Nos. 1-4, 304 p.
- Lyons, P.C., Zodrow, E.L., Millay, M.A., Dolby, G., Gillis, K.S., and Cross, A.T., 1997, Coal-ball floras of Maritime Canada and palynology of the Foord seam: geologic, paleobotanical and paleoecological implications: Review of Palaeobotany and Palynology, v. 95, nos. 1-4, p. 31-50.
- Mukhopadhyay, P.K., Lajeunesse, G., Crandlemire, A.L., Finkelman, R.B., 1996, Geochemistry and mineralogy of run-of-mine, feed coal and their combustion residues from Eastern Canadian Coalfield and power plant [abs.]: 30th International Geologic Congress Abstracts, v. 3, p. 412
- Zodrow, E.L., Lyons, P.C., and Millay, M.A., 1995, Permineralized plant matter (coal balls) in the shale parting of the Foord seam, Bolsovian (Westphalian C), Stellarton Basin, Nova

- Scotia, Canada: International Congress on Carboniferous-Permian, XIII ICC-P, Krakow, Poland, p. 157-158.
- Zodrow, E.L., Lyons, P.C., and Millay, M.A., 1996, Geochemistry of autochthonous and hypautochthonous siderite-dolomite coal-balls (Foord Seam, Bolsovian, Upper Carbonifierous), Nova Scotia Canada: International Journal of Coal Geology, v.29, p. 199-216.

CENTRAL AMERICA (general)

- Landis, E.R., and Weaver, J.N., Coal Resources of Central America: U.S. Geological Survey Open-File Report 87-365, 7 p.
- Landis, E.R., Weaver, J.N., Carter, M.D., and Wood, G.H., 1989, Geologic setting of coal deposits in the Central American-Caribbean Region [abs.], in Energy and Mineral Potential of the Central American-Caribbean Region Conference, San Jose, March 6-9, 1989 [proceedings].
- Landis, E.R., Weaver, J.N., Carter, M.D., and Wood, G.H., Jr., 1995, Coal in the Central American-Caribbean Region: Circum-Pacific Council for Energy and Mineral Resources Earth Science Series, v. 16, p. 153-157
- Orndorf, R.C., 1985, Annotated bibliography of coal in the Caribbean region: U.S. Geological Survey Open-File Report 85-110, 29 p.
- Weaver, J.N., Landis, E.R., Carter, M.D., and Wood, G. H., 1989, Coal resources in the Central American-Caribbean Region [abs.], in Energy and Mineral Potential of the Central American-Caribbean Region Conference, San Jose, March 6-9, 1989 [proceedings].
- Wood, G.H., and Bour, W.V. III, 1988, Coal map of North America: U.S. Geological Survey, 1:5,000,000.

CHINA (see PRC)

COSTA RICA

- Bolanos, I.K., Landis, E.R., Roberts, S.B., and Weaver, J.N., 1986, Coal Exploration Stage 1, Uatsi Project, Baja Talamanca, Costa Rica, Results and Recommendations: U.S. Geological Survey Open-File Report 86-121, 23 p. [also U.S. Geological Survey Project Report (IR)CS-32]
- Coates, D.A., and Sanchez, J.D., 1984, Exploration for coal in the Miocene Venado Formation, Provincia Alajuela, Costa Rica-- a progress report [abs.], in Geological Survey of America

- Abstracts with Programs, v.16, no. 6, p.473.
- Coates, D.A., Sanchez, J.D., Malavassi, L., Obando, L., Garcia, A., Estrada, R., and Alvarado, F., 1989, Geology and coal deposits of the Miocene Venado Formation, northern Costa Rica: Revista Geologica de America Central, 56 p.
- Landis, E.R., 1984, Costa Rica coal program quarterly progress and planning report, June 30, 1984: U.S. Geological Survey Project Report (IR)CS-29, 50 p.
- Landis, E.R., 1985, Costa Rica coal program progress report July 1, 1984-June 30, 1985: U.S. Geological Survey Project Report (IR)CS-30, 16 p.
- Landis, E.R., 1985, Documentary on the technical assistance project to assess coal resources of Costa Rica: U.S. Geological Survey Project Report (IR)CS-31, 10 p.
- Landis, E.R., and Miller, R.L. 1981, Coal in Costa Rica, a progress report (1981): U.S. Geological Survey Project Report Costa Rica Investigations (IR)CS-25, 59 p. [also USGS Open-File 85-369]
- Landis, E.R., and Weaver, J.N., 1988, Coal exploration in Costa Rica: a project assessment: U.S. Geological Survey Open-File Report 89-426, 23 p.
- Landis, E.R., and Weaver, J.N., 1989, Coal exploration in Costa Rica a project assessment: U.S. Geological Survey Open-File Report 89-426, 15 p.
- Landis, E.R., and Weaver, J.N., 1989, Coals in the Caribbean Region [abs.], in Proceedings of the Twelfth Caribbean Geologic Conference, St. Croix, p. 98.
- Malavasa, L.R., Ramirez, O.R., and Landis, E.R., 1984, Preliminary report on reconnaissance investigation of the Venado coal area: U.S. Geological Survey Project Report (IR)CS-27, 45 p.
- Roberts, S.B., and Weaver, J.N., 1986, Coal exploration in coastal environments: Two case studies from Costa Rica [abs.], in 11th Caribbean Geological Conference, Barbados, W.I. [proceedings]
- Sanchez, J.D., Bradbury, J.P., Bohor, B.F., and Coates, D.A., 1987, Diatoms and tonsteins as paleoenvironmental and paleodepositional indicators in a Miocene coal bed, Costa Rica: Palaios, v. 2, no. 2, p. 158-164.
- Weaver, J.N., Garcia, A., and Gomez, M., 1986, Progress report on the Corina subarea, Zent coal project, Costa Rica: U.S. Geological Survey Project Report (IR)CS-33, 20 p.
- Weaver, J.N., Ramirez, O., Malavassi, L., and Bolanos, K., 1989, Coal Exploration in Costa Rica: A case study [abs.], in Proceedings of the Twelfth Caribbean Geologic Conference, St. Croix, p. 178

CZECH REPUBLIC

- Finkelman, R.B., 1992, Controls on epigenetic cleat-filling mineralization in bituminous coal samples [abs]: V.M. Goldschmidt Conference, May 8-10, 1992, Reston, VA, Program and abstracts, p. A-35.
- Finkelman, R.B., Palmer, C.A., Holub, V., 1992, Modes of occurrence of sulfide minerals and chalcophile elements in several high-sulfur Czechoslovakian coals [abs]: 29th International Geologic Congress, Kyoto, 24 August 3 September, 1992, v. 1, p. 216.

HAITI

- Stevenson, G.C., Willson, T.D., Jean-Poix, C., and Medina, N., 1987, Coal briquetting in Haiti: Market and business assessment: Oak Ridge National Laboratories report to USAID ORNL/TM-10379.
- Weaver, J.N., 1986, Haiti coal briquetting feasibility study Inventory of resource data and collection of samples: U.S. Geological Survey Open-File Report 86-566, 12 p.

INDIA

- Milici, R.C., Warwick, P.D., and Landis, E.R., 1996, The origin of coking coal in the Sohagpur coalfield, India: Progress report of a cooperative project of the Geological Survey of India and the U.S. Geological Survey, *in* Dulong, F.T., and Cecil, C.B., eds., Predictive Stratigraphic Analysis: tectonic, eustatic, and climatic controls on the occurrences and quality of fossil fuels, USGS workshop and field trip, Reston, VA, April 15 20, 1996: Program and Abstracts, p. 69 -71. (Program open-file report in prep).
- Mukhopadhyay, Abhijit, Adhikari, S., Roy, S.P., Bhattacharya S., Milici, R.C., Warwick, P.D., Landis, E.R., 1997, Eustacy, climate, tectonics, sedimentary environments, and the formation of Permian coal measures in the Sohagpur Coalfield, Madhya Pradesh, India [abs.]: National Seminar on Recent Advances in Geology and Lignite Basins of India, (December 5-7, 1997), Abstracts, Geological Survey of India, Calcutta, p. 55-56.
- Mukhopadhyay, Abhijit, Adhikari, S., Roy, S.P., Bhattacharya S., Warwick, P.D., Milici, R.C., Landis, E.R., 1997, Rank enhancement of Permian Barakar and Raniganj coal beds in the western part of the Sohagpur coalfield, Madhya Pradesh, India [abs.]: National Seminar on Recent Advances in Geology and Lignite Basins of India, (December 5-7, 1997), Abstracts, Geological Survey of India, Calcutta, p. 58-60.
- Mukhopadhyah, Abhijit, Adhikari, S., Roy, Warwick, P. D., Milici, R. C., and Landis, E. R.,

- 1997, Stratigraphy, depositional setting, and rank enhancement of Permian Barakar and Raniganj coal measures in western part of the Sohagpur coalfield, Madhya Pradesh, India: National Seminar on Recent Advances in Geology and Lignite Basins of India, (December 5-7, 1997), Proceedings, Geological Survey of India, Calcutta, in press.
- Warwick, P. D., Milici, R. C., Landis, E. R., Mukhopadhyay, Abhijit, and Adhikari, S., 1997, The character of Permian coking and non-coking coal in the Sohagpur coal field, Madhya Pradesh, India [abs.]: 1997 Eastern Section AAPG and TSOP joint meeting, September 27-30, 1997, Lexington, Kentucky, Abstracts and Programs, p. 98.
- Watson, W.D., Wnuk, Christopher, and Bryant, Karen, 1997, The potential for India in the world coal export market: Journal of Energy and development, v. 22, no.1, p. 45-65.
- Wnuk, C., in press, The methodology of censussing plant fossil assemblages: Birbal Sahni Centenary Volume.
- Wnuk, C., Watson, W.D., and Bryant, K., 1995, The potential for Indian coal in export markets: Proceedings of the 9th Pacific Rim Coal Conference, New Delhi.

INDONESIA

- Cameron, C.C., 1987, Comparison of two tropical and north temperate peatlands in Sumatra and Maine, Symposium '87 Wetlands and Peatlands, Edmonton, Canada, Proceedings, preprint, p. 1-8.
- Cameron, C.C., Esterle, J.S., and Palmer, C.A., 1989, The geology, botany and chemistry of selected peat-forming environments from temperate and tropical latitudes, International Journal of Coal Geology, v. 12, p. 105-156.
- Cameron, C.C., Supardi, Malterer, T.J., and Esterle, J.S., 1987, Peat resources survey at Dendang and along the Batang Hari River from Jambi to the coast, International Peat Society Symposium on Tropical Peat and Peatlands for Development, Yogyakarta, Indonesia, Proceedings, preprint, p. 1-30.
- Cecil, C.B., Dulong, F.T., Neuzil, S.G., Harris, Ron, 1996, Sediment yield related to seasonality in rainfall in some tropical rivers of Indonesia [abs.]: EOS Supplement, American Geophysical Union 1996 Spring Meeting, v. 77, n. 17, p. S125.
- Cobb, J.C., and Cecil, C.B., eds., 1993, Modern and ancient coal-forming environments: Geological Society of America Special Paper 286, contains six papers resulting from USGS cooperative work in Indonesia.
- Neuzil, Sandra G., 1993, Temporal change in apparent influx of inorganic constituents to domed peat, Indonesia: peat stage to coalification [abs.]: Geological Society of America Abstracts

- with Programs, v. 25, no. 6, p. A-140.
- Neuzil, Sandra G., 1997, Onset and rate of peat and carbon accumulation in four domed ombrogenous peat deposits, Indonesia, *in* Rieley, J.O., and Page, S.E., eds., Tropical Peatlands: Samara Publishing Limited, Cardigan, UK, p. 55-72.
- Neuzil, S.G., Cecil, C.B., and Supardi, 1991, Elemental composition of Holocene domed peat, Indonesia [abs.]: Proceedings, Eighth Annual Meeting of the Society for Organic Petrology.
- Neuzil, S.G., and Cecil, C.B., 1992, Climatic, eustatic, and tectonic features as they relate to holocene ombrogenous peat accumulation in the Indo/Malay region [abs.]: Geological Association of Canada Mineralogical Association of Canada Abstracts, v. 17 p. A83.
- Orem, W.H., Neuzil, S.G., Lerch, H.H., and Cecil, C.B., 1996, Experimental early-stage coalification of a peat sample and a peatified wood sample from Indonesia: Organic Geochemistry, v. 24, no. 2, p. 111-125.
- Palmer, C.A., and Cameron, C.C., 1988, Preliminary report of the trace element geochemistry of an Indonesian peat deposit, U.S. Geological Survey Open-File Report 88-39, 27 p.
- Ruppert L.F., and Moore T.A., 1993, Differentiation of volcanic ash-fall and waterborne detrital layers in the Eocene Senakin coal bed, Tanjung Formation, Indonesia. Organic Geochemistry, v. 20, p. 233-247.

KYRGYZSTAN

- Bostick, N.H., Gluskoter, H.J., Johnson, E.A., and Landis, E.R., 1995, Jurassic coals in the newly independent Kyrgyz Republic--Geology, character, distribution, and importance to the nation: The Society for Organic Petrology Abstracts with Programs, 12th annual meeting, August 27-30, 1995 v. 12.
- Landis, E.R., Bostick, N.H., Gluskoter, H.J., Harrison, C.D., Huber, D.W., and Johnson, E.A., 1995, Assessment of the coal resources of Kyrgyz Republic: U.S. Geological Survey administrative report to USAID (IR)KY-2, 265 p.
- Landis, E.R., Bostick, N.H., Gluskoter, H.J., Harrison, C.D., Huber, D.W., and Johnson, E.A., 1995, Coal resources of Kyrgyzstan *in* Shiao-Hung Chiang, ed., Coal energy and the environment, Twelfth Annual International Pittsburgh Coal Conference, September 11-15, 1995, Proceedings: University of Pittsburgh Center for Energy Research, p. 523-525.
- Landis, E.R., Bostick, N.H., Gluskoter, H.J., Harrison, C.D., Huber, D.W., and Johnson, E.A., 1996, Assessment of the coal resources of the Kyrgyz Republic: U.S. Geological Survey Administrative Report (IR) KY-3A (English), 298 p., and (IR) KY-3B (Russian), 149 p.

Landis, E.R., Bostick, N.H., Gluskoter, H.J., Harrison, C.D., Huber, D.W., and Johnson, E.A., 1997, Assessment of the Coal Resources of the Kyrgyz Republic: Coal Character and Distribution, Geology, Mining, and Importance to the Nations Future: U.S. Geological Survey Open-File Report 97-137A (English), 145 p., and 97-137B (Russian), 146 p.

MAURITANIA

Greenwood, W.R., and Brownfield, M.E., 1986, Preliminary report on the potential of coal and peat resources of Mauritania to replace wood charcoal for domestic energy: U.S. Geological Survey Administrative Report, no. 4, 6 p.

NEW ZEALAND

- Biewick, L.R.H., Ellis, M.S., Blake, D., Flores, R.M., Sykes, R., and Molnia, C.L., 1992, Interactive Volume Modeling of coal and associated depositional systems, Eocene Brunner Coal Measures, Buller Coal Field, New Zealand, *in* Carter, L.M.H. ed., U.S. Geological Survey Research on Energy Resources, 1992, Program and Abstracts, Eighth V.E. McKelvey Forum on Energy and Mineral Resources: U.S. Geological Survey Circular 1074, p. 5-7.
- Dreesen, R., Bossiroy, D., Dusar, M., Flores, R.M., and Verkaeren, P., 1993, Coal-seam discontinuities influenced by synsedimentary tectonics and paleofluvial systems in the Westphalian C, Campine Basin, Belgium [abs.], *in* European Coal Conference 93, Geological Society of London: Leicester University, p. 8.
- Dreesen, R., Bossiroy, D., Dusar, M., Flores, R.M., and Verkaeren, P., 1995, Coal-seam discontinuities influenced by synsedimentary tectonics and paleofluvial systems in the Westphalian, C., Campine Basin, Belgium, *in* Whateley, M.K.G., and Spears, D.A., eds., European Coal Geology: London, Geological Society Special Publication No. 82, p. 215-232.
- Flores, R.M., 1991, Eocene Brunner Coal Measures and Kaiata Formation, A facies continuum from drowned paleovalleys to paralic plains, South Island, New Zealand [abs.], *in* International Symposium on Origin, Sedimentation and Tectonics of Late Mesozoic to Early Cenozoic Sedimentary Basins at the Eastern Margin of the Asian Continent: Kyushu Univers, Program and Abstracts.
- Flores, R.M., 1993, Lith-log facies descriptions of 1-km-thick cores of the Eocene Kapuni Group from 13 wells in the Taranaki Basin, New Zealand: Institute of Geological and Nuclear Sciences Limited Open-File Report, 67 p.
- Flores, R.M., and Sykes, R., 1990, Lithofacies framework of the Eocene Brunner Coal Measures, [various areas] South Island, New Zealand: [seven] Open-file Report[s], New Zealand Geological Survey.

- Flores, R.M., and Sykes, R., 1990, Lithofacies types and frameworks of the Eocene Brunner Coal Measures, Buller coal field, South Island, New Zealand, *in* Salisbury, G.P., and Salisbury, A.C. eds., Circum-Pacific Energy and Minerals for an Expanding Economy, Transactions of the Fifth Circum-Pacific Energy and Mineral Resources Conference, Honolulu, 1990: Circum-Pacific Council for Energy and Mineral Resources Earth Science Series, p. 207-219.
- Flores, R.M., and Sykes, R., 1990, Retrogradational fluvio-paralic coal-forming environments, South Island, New Zealand [abs.]: American Association of Petroleum Geologists Bulletin, v. 74 (6), p. 972.
- Flores, R.M., and Sykes, Richard, 1996, Depositional controls on coal distribution and quality in the Eocene Brunner Coal Measures, Buller Coalfield, South Island, New Zealand: International Journal of Coal Geology, v. 29, no. 4, p. 291-336.

NIGERIA

Spencer, F.D., 1983, Coal resources and coal potential on Nigeria: Nigeria Investigation. U.S. Geological Survey Project Report (IR)NI-3, 22 p.

PALAU

- Bates, A.L., Spiker, E.C., Orem, W.H., and Burnett, W.C., 1992, Speciation and isotopic composition of sulfur in sediments from Jellyfish Lake, Palau: Chemical Geology, 106, p. 63-76.
- Burnett, W.C., Landing, W.M., Lyons, W.B., and Orem, W.H., 1989, Jellyfish Lake, Palau: A model anoxic environment for geochemical studies: EOS, Transactions, American Geophysical Union, 70, p. 777-783.
- Landing, W.M., Burnett, W.C., Lyons, W.B., and Orem, W.H., 1991, Nutrient cycling and the biogeochemistry of manganese, iron, and zinc in Jellyfish Lake, Palau: Limnology and Oceanography, 36, p. 515-525.
- Orem, W.H., Burnett, W.C., Lyons, W.B., and Orem, W.H., 1991, Jellyfish Lake, Palau: Early diagenisis of organic matter in sediments of an anoxic marine lake: Limnology and Oceanography, 36, 526-543.

PAKISTAN

Brouwers, E.G., and Fatmi, S.A., 1991, Biostratigraphic and paleontologic analysis of ostracod assemblages from the Hangu, Lockhart, Patala, and Nammal Formations (upper

- Paleocene-lower Eocene), Salt Range, Pakistan: Unpublished U.S. Geological Survey report, 17 p., on file in Denver, Colorado, U.S. Geological Survey.
- Brouwers, E.G., and Fatmi, S.A., 1992, Late Paleocene Early Eocene ostracod assemblages from core JK-1, Meting- Jhimpir coal field, Sindh Province, Pakistan: U.S. Geological Survey Open File Report 92-221, 46 p.
- Brouwers, E.G., and Fatmi, S.A., 1993, Preliminary ostracod zonation of late Paleocene and early Eocene sedimentary rocks, Sindh Province, Pakistan [abstr.] International Symposium on Ostracoda, in Ostracoda in the earth and life sciences; proceedings of the 11th international symposium on Ostracoda (K.G. McKenzie, editor and others) 11, 1993. p. 672
- Brouwers, E.G., Wilson, L.A., and Fatmi, S.A., 1990, Field work in Sindh, the Salt Range, and Balochistan, Pakistan Trip Report, January-March, 1990: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)PK-92, 83 p.
- Bybell, L.M., and Self-Trail, J.M., in press, Calcareous nannofossils from Paleogene deposits in the Salt Range, Pakistan: U.S. Geological Survey Bulletin 2078-B, 31 ms p. [also USGS/GSP Project Report (IR)PK 109-B]
- Danilchik, W., and Shah, S.M. I., 1979, Stratigraphy and coal resources of the Makarwal Area, Trans-Indus Mountains, Mianwali District, Pakistan: U.S. Geological Survey Open-File Report 79-532, 118 p. [also Project Report (IR)PK-60]
- Danilchik, W., and Shah, S.M. Ibrahim, 1987, Stratigraphy and Coal Resources of the Makarwal Area, Trans-Indus Mountains, Mianwali District, Pakistan: U.S. Geological Survey Professional Paper 1341, 38 p., 4 pl.
- Drewes, Harold, 1995, Tectonics of the Potwar Plateau region and the development of syntaxis: U.S. Geological Survey Bulletin 2126, 22 p.
- Drewes, Harold, Ahmad, Zaki, and Khan, Rafiullah, in press, Resource evaluation of selected minerals and industrial commodities of the Potwar Plateau area, Pakistan: U.S. Geological Survey Bulletin 2078-H, 38 ms p. [also USGS/GSP Project Report (IR)PK 109-H]
- Duranni, N.A., and Warwick P.D., 1990, Regional characterization and resource evaluation of Paleocene and Eocene coal-bearing rocks in Pakistan [abs.]: Second Pakistan Geological Congress, University of Peshawar, 2-4 September, Abstracts with Program.
- Durrani, N.A., and Warwick, P.D., 1992, Regional characterization and resource evaluation of Paleocene and Eocene coal-bearing rocks in Pakistan: University of Peshawar Geological Bulletin, v. 24, p. 229-237.
- Edwards, L.E., in press, Paleocene and Eocene Dinocysts from the Salt Range, Punjab Province, Pakistan: U.S. Geological Survey Bulletin 2078-C, 32 p. [also USGS/GSP Project Report (IR)PK 109-C]

- Fassett, J.A., 1995, Coal resources and depositional setting of the Thar Coal Field, Sindh Province, Pakistan [abs]: American Association of Petroleum Geologists Annual Convention, March 5-8, 1995, Houston
- Fassett, J.A., and Durrani, N.A., 1994, Geology and coal resources of the Thar coal field, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 94-167, 74 p.
- Finkelman, R.B., Oman, C.L., SanFilipo, J.R., and Ghaznavi, Ishaq, 1995, Interpretation of coal quality data: the inorganic constituents with comments on the quality of coal from the Sonda coal field, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 93-591, 109 p.
- Frederiksen, N.O., 1994, Diachronism and environment of deposition of upper Paleocene coal beds in southern Pakistan: Abstracts with Programs, 1994 Annual Meeting of the Geological Society of America, Seattle, v.26, no.7, p. A-95 A-96.
- Frederiksen, N.O., 1994, Middle and late Paleocene Angiosperm Pollen from Pakistan: Palynology, v.18, p. 91-137.
- Frederiksen, N.O., 1992, Palynology of Mesozoic and lower Tertiary samples from northern, central, and southern Pakistan: U.S. Geological Survey Open-File Report 92-215, 11 p.
- Frederiksen, N.O., 1988, Late Paleocene pollen zonation, Sind Basin, Pakistan: Abstracts of 7th International Palynological Congress, Brisbane, p. 52.
- Frederiksen, N.O., Sheehan, T.P., and Andrle, V.A.S., in press, Spore/pollen biostratigraphy and paleoecology of Mesozoic and lower Tertiary samples form the Trans-Indus Mountains and Salt Range, Pakistan: U.S. Geological Survey Bulletin 2078-D, 51 ms. p. [also USGS/GSP Project Report (IR)PK 109-D]
- Fritz, E.B., and Khan, Mujib-ur, Stratigraphy and paleontology of the coal beds in the Gazij Shale, Sor Range-Daghari coal field, Quetta Division, West Pakistan: U.S. Geological Survey Open-File Report 75-274, 16 p. [also Technical Letter Pakistan Investigations PK-15]
- Geological Survey of Pakistan and U.S. Geological Survey, 1988, National coal exploration plan: U.S. Geological Survey Open-File Report 88-251, 81 p. [Also USGS/GSP Project Report (IR)PK-70]
- Ghani, M.A., Harbour, R.L., Landis, E.R., and Kebbish, William, 1975, Geology and coal resources of the Lakhra coal field, Hyderabad area, Pakistan: U.S. Geological Survey Open-File Report 75-553, 89 p., 2 pl. [also Project Report (IR)PK-55]
- Ghaznavi, M. I., 1988, Petrographic properties of the coals of Pakistan: M.S. thesis, Southern Illinois Univ., Carbondale, 247 p.

- Ghaznavi, M. I., 1990, Characterization of the coals of Harnai-Sharig-Khost areas, Balochistan, Pakistan: Phd thesis, Southern Illinois Univ., Carbondale, 358 p.
- Gibson, T.G., in press, Upper Paleocene foraminferal biostratigraphy and paleoenvironments of the Salt Range, Punjab, Pakistan: U.S. Geological Survey Bulletin 2078-E, 43 ms p. [Also U.S. Geological Survey Open-File Report 91-0112 (1990, 52 p.), U.S. Geological Survey/ Geological Survey of Pakistan Project Report (IR)PK-98, and USGS/GSP (IR)PK-109-E]
- Harbour, R.L., and Ghani, M.A., 1975, Results of core-drilling for coal at Lakhra anticline, Pakistan, from December 1961 to May 1965: U.S. Geological Survey Open-File Report 75-361, 35 p. [also Project Report (IR)PK-7]
- Hasan, M.T., 1989, Petrographic characterization of Sonda-Thatta coal field, Sind Province, Pakistan: M.S. thesis, Southern Illinois Univ., Carbondale.
- Johnson, E.A., and Khan, I.H., 1994, Principal reference section for part of the Eocene Ghazij Formation, Abraham Marri mine area, Pir Ismail Ziarat coal field, Balochistan: U.S. Geological Survey Miscellaneous Field Studies Map MF-2263-A.
- Johnson, E.A., and Khan, I.H., 1994, Principal reference section for part of the Eocene Ghazij Formation, Shin Ghwazha mine area, Sor Range coal field, Balochistan: U.S. Geological Survey Miscellaneous Field Studies Map MF-2263-B.
- Johnson, E.A., Warwick, P.D., Khan, I.H., and Kazim, M.A., 1994, Principal reference section for part of the Eocene Ghazij Formation, Moghal Mine area, Mach coal field, Balochistan: U.S. Geological Survey Miscellaneous Field Studies Map MF-2263-D.
- Johnson, E.A., Warwick, P.D., Khan, I.H., Rana, A.N., and Kazim, M.A., 1994, Principal reference section for part of the Eocene Ghazij Formation, Sarawan River area, Johan coal field, Balochistan: U.S. Geological Survey Miscellaneous Field Studies Map MF-2263-E.
- Johnson, E.A., Warwick, P.D., Roberts, S.B., and Khan, I.H., 1993, Limestone-pebble conglomerate facies of the Eocene Ghazij Formation, Balochistan, Pakistan: Evidence for collision-related tectonism on the northwestern margin of the Indian Plate [abs.]: American Association of Petroleum Geologists 1993 Annual Convention Program, p. 124.
- Johnson, E.A., Warwick, P.D., Roberts, S.B., and Khan, I.H., in press, Lithofacies, depositional environments, and regional stratigraphy of the Lower Eocene Ghazij Formation, Balochistan, Pakistan: U.S. Geological Survey Professional Paper 1599, 130 ms p., 49 figs.
- Landis, E.R., 1971, Analysis of Pakistan coals: U.S. Geological Survey Project Report (IR)PK-58, 71 p.
- Landis, E.R., 1986, Coal exploration techniques, in Khan, M.N., and Pelofsky, A.H., eds., Coal

- development potentials in Pakistan: Proceedings of the First Pakistan National Coal Conference, Feb. 22-26, 1986: Energy Planning and Development Project, Islamabad, Pakistan, p. 117-123.
- Landis, E.R., ed. 1994, Reconnaissance of coal areas in Balochistan Province, Pakistan: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)PK-112, 91 p.
- Landis, E.R., Khan, R.R., Warwick, P.D., Oman, C.L., Khan, S.A., and Bragg, L.J., 1988, Coal quality [of the Lakhra-Sonda coal fields], *in* Schweinfurth, S.A. and Husain, F., eds., Coal resources of the Lakhra and Sonda coal fields, Southern Sind Province, Pakistan: a progress report: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)PK-82, Part II, p. 3-1 to 3-72.
- Landis, E.R., Khan, R.R., Warwick, P.D., Oman, C.L., Khan, S.A., and Bragg, L.J., 1990, Quality of coal from the Paleocene Bara Formation, south Sindh, Pakistan [abs.]: American Association of Petroleum Geologists Bulletin, v. 74, no. 6, p. 985. [Also U.S. Geological Survey Open-File 90-656, p. 3.]
- Landis, E.R., Thomas, R.E., Khan, R.R., Abbas, A.S., and Bragg, L.J., 1992, Coal resources of the Sonda East area, Sonda coal field, Sindh Province, Pakistan: USGS/GSP Project Report (IR)PK-100, 119 p.
- Landis, E.R., Thomas, R.E., Outerbridge, W.F., Wnuk, C., Durrani, N.A., Khan, R.R., and Shah,
 A.A., 1988, Report on COALREAP drilling and related activities, September 1987 to
 February 1988, conducted in the Indus East coal area; southern Sindh Province, Pakistan:
 U.S. Geological Survey Open-file Report 88-543, Part A-Summary, 16 p.; Part B-Lithologic
 Logs; C-Geophysical Logs. [Also USGS/GSP Project Report (IR)PK-80.]
- Law, B.E., and Hussain, T., 1989, Measured stratigraphic sections of the Lower Permian Nilawahan Group, Salt Range, Punjab Province, Pakistan: U.S. Geological Survey Open-File Report 89-464, 11 p.
- Maldonado, Florian, Khan, S.H., and Mengal, J.M., 1993, Structural elements related to plate convergence of the Quetta-Muslim Bagh-Sibi-region, Balochistan Province, Pakistan [abs.]: Abstracts with Program, Geological Society of America Annual Meeting, Boston, v. 25, p. A-482. [also U.S. Geological Survey Open-File 94-670, p. 25]
- Maldonado, Florian, Khan, S.H., and Mengal, J.M., in press, Preliminary geologic map of parts of Loralai, Sibi, Quetta, and Khuzar Divisions, Balochistan Province, west-central Pakistan: U.S. Geological Survey Open-File 94-689, 1:250,000 scale.
- Maldonado, Florian, Mengal, J.M., and Khan, S.H., 1991, Fault scarps related to the 1935 Quetta earthquake, Quetta, Balochistan Province, west-central Pakistan [abs.]: EOS, v. 72, no. 44, p. 486.

- Outerbridge, W.F., Frederiksen, N.O., Khan, M.R., Khan, R.A., Qureshi, M.J., Khan, M.Z., Niamutullah, and Khan, S.A., 1991, The Sohnari Formation in southern Pakistan: *in* Stratigraphic Notes, 1989-90, U.S. Geological Survey Bulletin 1935, p. 27-40.
- Outerbridge, W.F. and Khan, R.R., 1988, The Lakhra anticline of southern Pakistan is active: Geological Society of America, Abstracts with Programs, v. 20, no. 7, p. A149.
- Outerbridge, W.F., and Khan, R.R., 1989, The Lakhra anticline--an active feature of Pleistocene to Recent age in southern Pakistan: U.S. Geological Survey Open-file Report OF-89-427, 32 p. [Also USGS/GSP Project Report (IR)PK-84]
- Outerbridge, W.F. and Khan, R.R., 1989, Inferred Tertiary to recent geologic history of the Lakhra area, southern Pakistan: 28th International Geological Congress, Washington, D.C., Abstracts, v. 2, p. 2-559.
- SanFilipo, J.R., Chandio, A.H., Khan, S.A., and Khan, R.A., *compilers*, 1989, Results of COALREAP drilling from January 1988 to February 1989, Jherruck area Sonda coal field, Sindh Province, Pakistan: USGS/GSP Project Report (IR)PK-85, Part I Summary of Drilling and related activities, 17 p; Part II Drill hole data, lithologic and geophysical logs for 20 holes.
- SanFilipo, J.R., Chandio, A.H., Khan, S.A., Khan, R.A., and Oman, C.L., 1993, Results of standard coal quality analysis for COALREAP drilling from January 1988 to February 1989, JK-series boreholes, Jherruck area of the Sonda coal field, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 93-589, 162 p. [also USGS/GSP Project Report (IR)PK-107]
- SanFilipo, J.R., Chandio, A.H., Khan, S.A., Khan, R.A., and Shah, A.A., 1994, Results of coal exploratory drilling from February 1992 to July 1992, Coal Resource exploration and Assessment Program (COALREAP), Thar Desert, Lakhra south, Indus plain, and adjacent areas: U.S. Geological Survey Open-File Reports 94-595, 94-596A,B, and C, 582 p., 52 plates. [also USGS/GSP Project Report (IR)PK-108]
- SanFilipo, J.R., and Khan, R.A., 1994, The discovery of a blind coal field in the Thar Desert of Pakistan, with the help of some unconventional techniques, *in* Shaio-Hung Chiang, ed., Coal-Energy and the Environment, Eleventh Annual International Pittsburgh Coal Conference, September 12-16, 1994, Proceedings: University of Pittsburgh Center for Energy Research, v. 2, p. 1148-1153.
- SanFilipo, J.R., Khan, R.A., and Khan, S.A., 1988, Geology and coal resources [of the Lakhra-Sonda coal fields], with recommendations for future work, *in* Schweinfurth, S.A. and Husain, F., eds., Coal resources of the Lakhra and Sonda coal fields, Southern Sind Province, Pakistan: a progress report: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)PK-82, Part II, p. 2-1 to 2-120, Appendices 1-3 (37 p.).

- SanFilipo, J.R., Khan, R.A., Khan, S.A., 1990, Coal resources and geologic controls of the Lakhra and Sonda coal fields, Sindh Province, Pakistan, *in* Kazmi, A.H., and Siddiqi, R.R., eds., Proceedings of a Workshop on the Significance of Coal Resources of Pakistan, February 8-9, 1989, Karachi, Pakistan: Geological Survey of Pakistan, Quetta, p. 93-103.
- SanFilipo, J.R., Khan, S.A., and Chandio, A.H., 1994, Coal resources of the Jherruck area, Sonda Coal Field, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 93-523, 136 p., 19 pl. [also USGS/GSP Project Report (IR)PK-101]
- SanFilipo, J.R., Wnuk, Christopher, Faridudin, M., Ahmid, M., Khan, S.A., Rahman, M., Chandio, A.H., and Khan, R.R., 1992, Potential for the occurrence of thick lignite deposits in the Thar Desert and adjacent lower Indus Plain, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 92-576, 135 p.
- SanFilipo, J.R., Thomas, J.C., and Warwick, P.D., 1997, Satellite image maps of Pakistan: U.S. Geological Survey Fact Sheet 109-97.
- SanFilipo, J.R., Thomas, J.C., and Warwick, P.D., 1997, Satellite image maps of Pakistan [abs.]: Geological Society of America Abstracts with Programs, v. 29, no. 6, p. 40.
- Schweinfurth, S.A., Bergin, M.J., Frederiksen, N.O., Hildebrand, R.T., Landis, E.R., Outerbridge, W.F., SanFilipo, J.F., Simon, F.O., Warwick, P.D., and Wnuk, C, 1988, Pakistan--A coal geologist's paradigm; *in* U.S. Geological Survey Research on Energy Resources-1988, Program and Abstracts: USGS Circular 1025, p. 58.
- Schweinfurth, S.A. and Husain, Farhat, *eds.*, 1988, Coal resources of the Lakhra and Sonda coal fields, southern Sindh Province, Pakistan: a progress report: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)PK-82, Part I Executive Summary, 42 p.; Part II Geology, coal resources, and coal quality, 220 p; Part III Basic stratigraphic information collected by the Geological Survey of Pakistan and the U.S. Geological Survey between July 1985 and May 1987, 8 p., 41 plates; Part IV Basic analytical data for coal samples collected between July 1985 and May 1987, 507 p.; Part V Basic information used for coal-resource calculations 25 p., 94 plates; Part VI Basic stratigraphic information collected by the Geological Survey of Pakistan between 1981 and 1986 from coal-exploration drill holes and coal-mine investigations, 1 p., 7 plates. [Part I released as U.S. Geological Survey Open-File Report 90-59]
- Schweinfurth, S.A., SanFilipo, J.R., Landis, E.R., Khan, R.R., and Shah, A.A., 1990, Coal resources of the Lakhra and Sonda coal fields, Southern Sind Province, Pakistan. A progress report Part 1 Executive Summary: U.S. Geological Survey Open-File Report 90-59, 33 p. [also released with USGS/GSP Project Report (IR)PK-82]
- Schweinfurth, S.A., SanFilipo, J.R., and Simon, F.O., 1985, Plan for coal-resources-assessment drilling and related activities, Sindh Province, Pakistan: USGS/GSP Project Report (IR)PK-

- 69, 28 p.
- Sheikh, I.M., and Pasha, M.K., and Williams, V.S., in press, Environmental geology of the Islamabad-Rawalpindi area, Pakistan: U.S. Geological Survey Bulletin 2078-G, 45 ms p. [also USGS/GSP Project Report (IR)PK-109-G]
- Simon, F.O., 1986, Coal analytical laboratory system for Pakistan: U.S. Geological Survey/Geological Survey of Pakistan Project Report (IR)-PK-72, 68 p.
- Simon, F.O., Khan, R.R., Landis, E.R., and Hildebrand, R.T., 1987, Chemical and physical characterization of mine samples from Lakhra coal field south Sindh, Pakistan: U.S. Geological Survey Open-File Report 87-662, 94 p. [Also USGS/GSP Project Report (IR) PK-73.]
- Thomas, R.E., Khan, M.R., and Khan, S.A., 1988, Measured sections of Laki Formation, Ganjo Takkar and Saidpur outlier, Hyderabad District, Pakistan: U.S. Geological Survey Open-File Report 88-550, 69 p. [Also USGS/GSP Project Report (IR)PK-81.]
- Thomas, R.E., Khan, M.R., and Khan S.A., 1989, Lateral relationships in the Laki Formation, Ganjo Takkar and Saidpur outlier, Hyderabad District, Sindh Province, Pakistan: U.S. Geological Survey Miscellaneous Field Studies Map MF 2084, 1 oversize sheet.
- Thomas, R.E., Khan, M.R., and Khan, S.A., 1989, Coal Exploration in Sindh Province, Pakistan: 28th International Geological Congress, Washington, D.C., Abstracts, v. 3, p. 3-235.
- Thomas, R.E., Khan, M.R., and Khan, S.A., 1990, Coal resources in Sindh Province, Pakistan: U.S. Geological Survey Research on Energy Resources, 1990 Program and Abstracts, V.E. McKelvey Forum on Mineral and Energy Resources, U.S. Geological Survey Circular 1060, p. 81-82.
- Thomas, R.E., Khan, M.R., Khan, S.A., 1993, Coal resources of the Sonda Coal Field, Sind Province, Pakistan: International Journal of Coal Geology, v. 23, p. 159-191.
- Thomas, R.E., and Khan, S.A., 1990, Indus East coal exploration, Sindh Province, Pakistan: *in* Kazmi, A.H., and Siddiqi, R.R., eds., Proceedings of a Workshop on the Significance of Coal Resources of Pakistan, February 8-9, 1989, Karachi, Pakistan: Geological Survey of Pakistan, Quetta, p. 105-107.
- Thomas, R.E., and Khan, S.A., 1992, (Part I), Geology and coal resources of the Sonda East area, Sonda coal field, Sindh Province, Pakistan: U.S. Geological Survey/ Geological Survey of Pakistan Project Report (IR)PK -100, 124 p.
- Thomas, R.E., Landis, E.R., and Khan, R.R., 1988, Report on coal resource exploration program drilling and related activities, April 1986 to May 1987, Southern Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 88-275, Part A-Summary, 19 p.; Part B-Lithologic Logs, Part C-Geophysical Logs, 1500 p. [Also USGS/GSP Project Report (IR)PK-78.]

- Thomas, R., Wnuk, C., Landis, E.R., Outerbridge, B., SanFilipo, J.R., Khan, S.A., Chandio, A., and Kazmi, A., 1992, The coal fields of Sindh, Pakistan: Abstracts, 29th International Congress, Kyoto, v.3, no. 6768, p. 807.
- Thomas, R.E., and others, 1990, Drilling records and logs for the Indus East area, Coal resource exploration assessment program, March 1987 to February 1988, southern Sind province, Pakistan: U.S. Geological Survey Open-File Report 90-304.
- Thomas, R.E., Shah, A.A., Fassett, J.E., Khan, S.A., Warwick, P.D., Tagar, M.A., Wardlaw, B.R., Memon, A.R., Lashari, G.S., Khan, M.D., Khan, Z.M., Chandio, A.H., Anwar, Mohammad, Nizamani, M.A., Mehtab-ur-Rahman, and Ahmad, Mujeeb, 1994, Report on drilling activities in the Thar Desert, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 94-274, 11680 p. [also USGS/GSP Project Report (IR)PK-110]
- Thomas, R.E., Shah, A.A., Khan, S.A., Tagar, M.A., Memon, A.R., Lashari, G.S., Khan, Z.M., Khan, M.D., Chandio, A.H., Anwar, Mohammad, Nizamani, M.A., 1994, Analytical results on coal samples collected from drilling activities in the Thar Desert, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 94-557, 440 p.
- U.S. Geological Survey, 1997, Pakistan, satellite image map: U. S. Geological Survey Miscellaneous Investigations Map I-2587-A, scale 1:2,000,000. Also: I-2587-B (Northwest Frontier), -C (Northern Areas), D (N.W. Balochistan), -E (N.E. Balochistan), F (Punjab), -G (S.W. Balochistan), -H (Sindh), scale 1:500,000, (8 maps).
- U.S. Geological Survey, in prep, Southernmost Thar Desert area, Pakistan and India, Landsat Thematic Mapper image map: U. S. Geological Survey Miscellaneous Investigations Map I-2664, scale 1:250,000, 2 sheets.
- USGS, USBM, USBR, and ANL, 1978, Preliminary report on the energy resources of Pakistan, U.S. Geological Survey Project Report (IR)PK-65, 113 p.
- Wardlaw, B.R., and Warwick, P.D., in prep, Paleocene-Eocene stratigraphy in northern Pakistan: depositional and structural implications: submit to Journal of Sedimentary Research, 17 ms p.
- Wardlaw, B.R., Martin, W.E., and Haydri, I.H., in press, Stratigraphic analysis of Paleocene-Lower Eocene rocks of the Potwar Plateau: U.S. Geological Survey Bulletin 2078-F, 50 ms p. [also USGS/GSP Project Report (IR)PK-109-F]
- Wardlaw, B.R., Martin, W.E., and Haydri, I.H., 1990, Preliminary lithofacies analysis of the Lockhart, Patala, and Nammal Formations (Paleocene-Eocene) of the Salt Range, Pakistan: U.S. Geological Survey Open-File Report, 40 p.
- Warwick, P.D., in press, Overview of the geography, geology, and structure of the Potwar Regional Framework Assessment study area, Pakistan: U.S. Geological Survey Bulletin 2078-

- A, 19 ms p. [also USGS/GSP Project Report (IR)PK-109-A]
- Warwick, P.D., 1991, Coal Resources in Pakistan: U.S. Geological Survey Yearbook Fiscal Year 1990, p. 79-80.
- Warwick, P.D., and Husain, Farhat, 1990, Coal fields of Punjab and North-West Frontier Provinces, and Azad Kashmir, Pakistan: *in* Kazmi, A.H., and Siddiqi, R.R., eds., Proceedings of a Workshop on the Significance of Coal Resources of Pakistan, February 8-9, 1989, Karachi, Pakistan: Geological Survey of Pakistan, Quetta, p. 15-26.
- Warwick, P.D., and Javed, Shahid, 1990, Quality and character of Pakistan coal, *in* Kazmi, A.H., and Siddiqi, R.R., eds., Proceedings of a Workshop on the Significance of Coal Resources of Pakistan, February 8-9, 1989, Karachi, Pakistan: Geological Survey of Pakistan, Quetta, p. 127-135.
- Warwick, P.D., Javed, Shahid, Mashhadi, S.T.A., Shakoor, Tariq, Khan, S.M., and Khan, A.L., 1995, Lithofacies and palynostratigraphy of some Cretaceous and Paleocene rocks, Surghar and Salt Range coal fields, northern Pakistan: U.S. Geological Survey Bulletin 2096, 35 p.
- Warwick, P.D., Johnson, E.A., and Khan, I.H., 1993, Paralic and marine facies of the Ghazij Formation: Evidence for Eocene tectonism along the northwestern margin of the Indian Plate [abs.]: SEPM (Society for Sedimentary Geology) 1993 Meeting: The Stratigraphic Record of Global Change, Abstracts with Program, Penn State University, State College, Pennsylvania, August 8-12, p. 60.
- Warwick, P.D., Johnson, E.A., and Khan, I.H., 1998, Collision-induced tectonism along the northwestern margin of the Indian subcontinent as recorded in the Upper Paleocene to Middle Eocene stata of central Pakistan (Kirthar and Sulaiman Ranges): Palaeogeography, Palaeoclimatology, Palaeoecology 142(1998), p. 201-216.
- Warwick, P.D., Johnson, E.A., Khan, I.H., and Kazim, M.A., 1994, Principal reference section for part of the Eocene Ghazij Formation, Gishtri Nala area, Mach coal field, Balochistan: U.S. Geological Survey Miscellaneous Field Studies Map MF-2263-C.
- Warwick, P.D., SanFilipo, J.R., Thomas, R.E. and Fassett, J.E., 1991, Low-rank coal resource assessment in Pakistan: Low-Rank Coal Newsletter, v. 1, no. 2, University of North Dakota, Grand Forks, North Dakota, 6 p.
- Warwick, P.D., SanFilipo, J.R., Thomas, R.E., Fassett, J.E., 1992, The coal resources evaluation and assessment project (COALREAP) in Pakistan-Energy for the future [abs.], *in* Carter, L.M.H, ed., USGS Research on Energy Resources, 1992, Program and Abstracts, Eighth V.E. McKelvey Forum on Mineral and Energy Resources: U.S. Geological Survey Circular 1074, p. 79.

- Warwick, P.D., and Shakoor, Tariq, 1988, Preliminary report on the coal characteristics in the Salt Range area of north-central Pakistan, U.S. Geological Survey Open-file Report 88-637, 333 p., 3 figs. 3 tbls., 10 maps. [Also USGS/GSP Project Report (IR)PK-83.]
- Warwick, P.D. and Shakoor, Tariq, 1988, Controls on the distribution and lithofacies of marginal-marine Paleocene Formations of the Salt Range, Pakistan: Geological Society of America, Abstracts with Programs, v. 20, no. 7, p. A90.
- Warwick, P.D. and Shakoor, Tariq, 1992, Relations between coal bed characteristics and depositional environments in the Paleocene Patala Formation, Salt Range coal field, northern Pakistan [abs.]: Abstracts, First South Asian Geological Congress, Islamabad, Pakistan, February 23-27, p. 45.
- Warwick, P.D., Shakoor, Tariq, in press, Lithofacies and depositional environments of the coal-bearing Paleocene Patala Formation, Salt Range coal field, northern Pakistan: U.S. Geological Survey Bulletin 2078-I, 40 ms p. [also USGS/GSP Project Report (IR)PK-109-I]
- Warwick, P.D., Shakoor, Tariq, Javed, Shahid, Mashhadi, S.T.A., and Ghaznavi, M.I., 1990, Chemical and physical characteristics of coal beds from the Salt Range coal field, Punjab Province, Pakistan: U.S. Geological Survey Research on Energy Resources, 1990 Program and Abstracts, V.E. McKelvey Forum on Mineral and Energy Resources, U.S. Geological Survey Circular 1060, p. 86.
- Warwick, P.D., Shakoor, Tariq, Javed, Shahid, Mashhadi, S.T.A., Hussain, Hamid, Anwar, M.C., and Ghaznavi, M.I., 1990, Chemical and physical characteristics of coal and carbonaceous shale samples from the Salt Range coal field, Punjab Province, Pakistan: U.S. Geological Survey Open-File Report 90-524, 44 p.
- Warwick, P.D., and Thomas, R.E., 1995, The regional stratigraphic and depositional setting of the Paleocene-Eocene coal-bearing rocks of south Sindh, Pakistan [abs.]: American Association of Petroleum Geologists Annual Convention, March 5-8, 1995, Houston, p.124.
- Warwick, P.D., and Wardlaw, B.R., 1992, Paleocene-Eocene stratigraphy in northern Pakistan: depositional and structural implications [abs.]: 7th Himalaya-Karakoram-Tibet Workshop Programme and Abstracts, Department of Earth Sciences, Oxford University, U.K., p. 97.
- Warwick, P.D., Wnuk, Christopher, Khan, I.A., Khan, M.J., and Rasheed, Saleem, 1987, Depositional environments of the coal of the Lakhra coal field, Pakistan: Geological Society of America, Abstracts with Programs, v. 19, no. 7, p. 882.
- Whitney, Gene, Abbas. S.Q., and Esposito, Kenneth, 1990, Mineralogy and thermal properties of clay deposits in the Salt Range and Kala Chitta Range, Punjab Province, Pakistan: U.S. Geological Survey Open-File Report 90-657. [Also USGS/GSP Project Report (IR)PK-96]

- Williams, Van S., Pasha, Mustafa K., and Sheikh, Iqbal M., in press, Geologic map of the Islamabad-Rawalpindi area, Punjab, northern Pakistan: U.S. Geological Survey Miscellaneous Investigations map I-2564, scale 1:50,000.
- Wnuk, Christopher, Brouwers, E., and Frederiksen, N., 1992, Late Paleocene and Early Eocene terrestrial and marine environments, Lakhra Coal Field, Sind Province, Pakistan: V.E. McKelvey Forum on Mineral and Energy Resources, U.S. Geological Survey Circular 1074, p. 81-82.
- Wnuk, Christopher, Fariduddin, Mohammed, Fatmi, Farah, and SanFilipo, J.R., 1991, The stratigraphy and geometry of the Lakhra Formation in the Lakhra coal field area, and implications for the coal resource potential north of Lakhra, Sind Province, Pakistan: U.S. Geological Survey Pakistan Open-File Report 91-9, 104 p. [also USGS/GSP Project Report (IR)PK-97]
- Wnuk, Christopher, Landis, E.R., Warwick, P.D., Thomas, R.E., and Khan, R.R., 1987, First results from the COALREAP, southern Sindh Province, Pakistan: USGS/GSP Project Report (IR)PK-74.
- Wnuk, Christopher, SanFilipo, J.R. Chandio, A.H., and Fatmi, F., 1993, The stratigraphy and coal resource potential of the Bara Formation in the Fort Ranikot area, Sindh Province, Pakistan: U.S. Geological Survey Open-File Report, 93-256, 63 p. [also USGS/GSP Project Report (IR)PK-105)]
- Wnuk, Christopher, SanFilipo, J.R., Fatmi, F., Fariduddin, M., 1991, The stratigraphy and coal resource potential of the Sohnari member of the Laki Formation in the Sindh Province, Pakistan: U.S. Geological Survey Open-File Report 90-326. [also USGS/GSP Project Report (IR)PK-99]
- Wnuk, Christopher, SanFilipo, J.R., Fatmi, F., Khan, S.A., and Farididdin, M., 1993, Lithological and geophysical characteristics of the Pakistan Mineral Development Corporations THL core hole: Implications for the coal resource potential of the lower and middle part of the Bara Formation in the Lakhra area of Sindh, Pakistan: U.S. Geological Survey Open-File Report, 93-255, 137 p. [also USGS/GSP Project Report (IR)PK-106]
- Wnuk, Christopher, SanFilipo, J.R., Fariduddin, M., Fatmi, F., and Chandio, A., 1992, Tidally dominated Paleocene sand ridges in the Bara Formation, Sindh, Pakistan [abs.]: 29th International Geological Congress, Kyoto.
- Wnuk, Christopher, SanFilipo, J.R., Fariduddin, M., Fatmi, S.F., Kahn, S.H., and Chandio, A.,
 1992, Measured sections from the Bara, Lakhra, and Laki Formations in Sindh Province,
 Pakistan: a progress report: U.S. Geological Survey Open File Report 92-281, 90 p. [also USGS/GSP Project Report (IR)PK-102]

PEOPLES REPUBLIC OF CHINA

- Belkin, H.E., in press, Mineralogy and speciation of arsenic in coals of the Upper Permian Longtan Formation, Guizhou, Province, P.R. China [abs.]: Geological Society of America Abstracts with Programs, v. 30.
- Belkin, H.E., Warwick, P. D., Zheng, Baoshan, Zhou, Daixing, and Finkelman, R.B., 1998, High arsenic coals related to sedimentary rock-hosted Gold, *in* Shaio-Hung Chiang, ed., Fifteenth Annual International Pittsburgh Coal Conference, September 14-18, 1998, Proceedings: University of Pittsburgh, CD-ROM, session 01, 5 p.
- Belkin, H.E., Zheng, Baoshan, and Finkelman, R.B., 1997, Geochemistry of coals causing arsenism in Southwest China [abs.], *in* Wanty, R.B., Marsh, S.P., and Gough, L.P., 4th International Symposium on Environmental Geochemistry, Program with Abstracts: U.S. Geological Survey Open- File Report 97-496, p. 10.
- Belkin, H.E., Zheng, Baoshan, Zhou, Daixing, and Finkelman, R.B., 1997, Preliminary results on the geochemistry and mineralogy of Arsenic in mineralized coals from endemic arsenosis areas in Guizhou Province, P.R. China, *in* Fourteenth Annual International Pittsburgh Coal Conference, September 23-27, 1997, Taiyuan, Shanxi, Peoples Republic of China, Proceedings: University of Pittsburgh, CD-ROM, session 01, 20 p.
- Belkin, Harvey E., Zheng, Baoshan, Zhou, Daixing, and Finkelman, Robert B., in press, Human health effects of domestic combustion of coal: a causal factor for arsenosis and fluorosis in rural China [abs.], *in* Air Quality Mercury, Trace Elements, and Particulate Matter Conference McLean VA, 1-4, December, 1998 [proceedings].
- Crowley, S.S., Orem, W.H., Roth, M.J., Finkelman, R.B., Scrogg, E.A., and Willett, J., in press, Possible relation between esophageal cancer and coal combustion in China, a preliminary study [abs.]: The Society for Organic Petrology 15th annual meeting, July 26-30, 1998.
- Finkelman, R.B., Centeno, Jose A., and Zheng Baoshan, 1998, Etiology of arsenism in Guizhou Province, southwest China [abs.]: Society of Geochemistry and Health Third International Conference on Arsenic Exposure and Health Effects [proceedings]
- Kent, B.H., Weaver, J.N., Roberts, S.B., Tian Ming, Liu Shu, and Mao Bangzhuo, 1988, Geology and resource appraisal of the Felix coal deposit, Powder River Basin, Wyoming: A research project with the People's Republic of China: U.S. Geological Survey Bulletin 1818, 32 p.
- Johnson, E.A. 1990, Geology of the Fushun coalfield, Liaoning Province, People's Republic of China: International Journal of Coal Geology, v. 4, no. 3, p. 217-236.
- Johnson, E.A., Liu, Shu, and Zhang, Yonglin, 1989, Depositional environments and tectonic controls on the coal-bearing Lower Middle Jurassic Yan'an Formation, southern Ordos Basin,

- China: Geology, v. 17, no. 12, p. 1123-1126.
- Peng Suping and Flores, R.M., 1996, Modern Pearl River delta and Permian Huainan coalfield, China--A comparative sedimentary facies study, *in* Stanton, R. eds., Organics and the Rockies: Organic Geochemistry Special Issue, v. 24, p. 159-179.
- Ryder, R.T., Rice, D.D., Sun, Z., Zhang, Y., Qui, Y., and Guo, Z., 1994, Petroleum geology of the Sichuam basin, China--Report on U.S. Geological Survey and Chinese Ministry of Geology and Mineral Resources field investigations and meetings, October 1991: U.S. Geological Survey Open-File Report 94-426, 67 p. [incl. coal as source and reservoir rock]
- Warwick, P.D., Belkin, H.E., Zheng Baoshan, and Finkelman, R.B., in press, Geology and distribution of high arsenic coals used for domestic purposes in areas of endemic arsenic poisoning, southwestern Guizhou Province, China [abs.]: Geological Society of America Abstracts with Programs, v. 30., 1 ms p.

PHILIPPINES

- Landis, E.R., Carter, M.D., and Medlin, J.H., 1985, The Philippine coal resource, Volume I of Introducing coal-water-mix fuels to the Philippines--Assessment of project feasibility: U.S. Geological Survey Open-File Report 85-473, 205 p.
- U.S. Agency for International Development, 1985, Introducing coal-water-mix fuels to the Philippines--Assessment of project feasibility, 5 volumes plus executive summary.

POLAND

- Clayton, J.L. and Kotarba, M., 1995, Depositional environments of Polish coals and carbonaceous shales--A biological marker and stable isotope approach, *in* Origin and Habitat of Coal Gases in Polish Basins, Isotopic and Geological Approach: Krakow, Report from Research Cooperation within the U.S.-Polish Maria Sklodowska-Curie Joint Fund II, p. 48-62.
- Clayton, J.L., Kotarba, M., Rice, D.D., and Wagner, M., 1995, Assessment of hydrocarbon source rock potential of Polish coals and carbonaceous shales, *in* Origin and Habitat of Coal Gases in Polish Basins, Isotopic and Geological Approach: Krakow, Report from Research Cooperation within the U.S.-Polish Maria Sklodowska-Curie Joint Fund II, p.35-48.
- Clayton, J.L., Leventhal, J.S., Rice, D.D., Kotarba, M., and Korus, A., 1995, Atmospheric methane flux from U.S. and Polish coals, *in* Grimalt, J.O., and Dorronso, C., eds., Organic Geochemistry: Developments and Applications to Energy, Climate, Environment and Human History: Donostia-San Sebastin, Selected Papers from the 7th International Meeting on Organic Geochemistry, p. 641-643.
- Finkelman, R.B., 1995, Environmental impact of trace elements in coal: strategies for mitigation

- [abs.]: Spraw. Pos. Panstw. Inst. Geol. Warszawa (Proceedings Polish Institute of Geology) v. 52.
- Kasinski, J.R., Finkelman, R.B., Piwocki, M., Stanton, R.W., Warwick, P.W., 1997, Low-Rank coal formation in Poland and the United States: I. Zitau Basin, Poland, *in* Ziegler, A., van Heek, K.H., Klein, J., and Wanzl, W. eds., Proceedings of the 9th International Conference on Coal Science, 7-12 September, 1997, Essen, Germany: DGMK Tagungsberichte 9702, P&W Druck und Verlag GmbH, D-45141 Essen, Germany, p. 35- 38.
- Kotarba, M. J., Clayton, J. L., and Rice, D. D., 1996, Coalbed gases and hydrocarbon source rock potential of Upper Carboniferous coal-bearing strata in Upper Silesian coal basin, Poland [abs.]: American Association of Petroleum Geologists Annual Convention Official Program, v. 5, p. A78.
- Kotarba, M.J., Clayton, J.L., and Rice, D.D., 1997, Habitat of coalbed gases and hydrocarbon source rock potential of Upper Carboniferous strata in Polish coal basins, Poland [abs.]: American Association of Petroleum Geologists International Conference, Vienna, September 6-10, 1997, Official Program.
- Salmon, L.G., Cass, G.R., Kozlowski, R., H.ejda, A., Spiker E.C., and Bates, A.L., 1996, Air Pollutant Intrusion into the Wieliczka Salt Mine: Environmental Science and Technology, v. 30, no. 3, p. 372-380.

RUSSIA

- Barker, C.E., 1996, A field and laboratory procedure to desorb coal bed gases from drill core and cuttings: A Russian translation of portions of U.S. Geological Survey Open-File Report 91-563: U.S. Geological Survey Open-File Report 96-658, 16 p.
- Orem W.H., Colman S.M., and Lerch H.E., 1997, Lignin phenols in sediments from Lake Baikal Siberia: Application to paleoenvironmental studies, Organic Geochemistry v. 27: 153-172.
- Yakutseni, V.P., Petrova, Y.E., Law, B.E., and Ulmishek, G.F., 1996, Coalbed methane potential of the Pechora Coalfield, Timan-Pechora Basin, Russia [abs.]: American Association of Petroleum Geologists Annual Convention Official Program, v. 5, p. A155.

SERBIA (see also Yugloslavia)

- Ruppert, L., Finkelman, R., Boti, E., Milosavljevic M., and Lolinovic, R., 1991, Significance of Ni- and Cr-rich minerals in the Kosovo lignite, Yugoslavia [abs]: Geological Society of America, Abstracts with Programs, v. 23, p. 144.
- Ruppert, L., Finkelman, R., Boti, E., Milosavljevic M., Tewalt, S., Simon, N., and Dulong, F.,

- 1992, Combustion of Ni- and Cr-rich lignite, Kosovo Basin, Yugoslavia: Potential Environmental Impact [abs]: Coal, Energy, and Environment, Abstracts, Oct 12-17, 1992, Ostrava, Czechoslovakia, p. 6-7.
- Ruppert, L., Finkelman, R., Boti, E., Milosavljevic M., Tewalt, S., Simon, N., and Dulong, F., 1996, Origin and significance of high nickel and chromium in Pliocene lignite of the Kosovo Basin, Serbia and Montenegro: International Journal of Coal Geology, v. 29, p. 235-258.

SOUTH AMERICA (general)

- Biewick, L.R.H., Cook, C.A., and Weaver, J.N., in prep, Interactive spatial data set and digital map of coal in South America: U.S. Geological Survey Digital Data Series CD-ROM, includes ARC/INFO, Illustrator, and USGS Geographic Information System (GIV) formats for use on UNIX, MAC/DOS, and DOS platforms respectively, (public domain GIV application software to be included).
- Biewick, L.R.H., and Weaver, J.N., 1995, The digital coal map of South America in ARC/INFO format: U.S. Geological Survey Open-File Report 95-235, scale 1:7,500,000, digital files that can be downloaded via 'anonymous ftp' from a USGS system named greenwood.cr.usgs.gov (136.177.48.5).
- Weaver, J.N., 1992, Coal in Latin America: 1992, Uruguay, Argentina, Chile, Peru, Ecuador, Colombia, Venezuela, Brazil, and Bolivia: U.S. Geological Survey Open-File Report 93-239, 60 p.
- Weaver, J.N., and Wood, G.H., 1994, Coal map of South America: U.S. Geological Survey Coal Investigations Map C-145, Scale 1:7,500,000.

SUDAN

Setlow, L.W., 1983, Geologic assessment of the fossil energy and geothermal potential of the Sudan: U.S. Geological Survey Open-File Report 832-356.

THAILAND

- Barker, R.M., Frizzell, E.M., and Sokaski, Michael, 1985, Report describing tour by Thai representatives from Lignite Mine Department, Egat, of United States mine and mining-equipment manugfacturers: USGS Project Report (IR) TH-28, 10 p.
- Gardner, L.S., 1956, The Mae Mo lignite deposit in northwestern Thailand: USGS Project Report

- (IR) TH-9, 88 p.
- Medlin, J.H., Sokaki, Michael, and Medlin, A.L., 1984, Evaluation of lignite deposits and application of computer technology to geologic studies and mine planning in Thailand: USGS Project Report (IR) TH-27, 10 p., 82 p.
- Swanson, V.E., 1981, Preliminary report on the coal resources of Thailand: USGS Project Report (IR) TH-23, 13 p.

TURKEY

Palmer, C. A., Tuncali, E., Finkelman, R.B., 1997, Geochemical characteristics and environmental significance of some Soma Basin lignites, Turkey [abs.]: International Symposium on Geology and Environment - GEOENV 97, September 1997, Istanbul, Abstract with Programs, p. 83.

UKRAINE

Ruble, T.E., Clayton, J.L., Warden, Augusta, Daws, T.A., Ulmishek, G.F., and Kabyshev, B.P., 1996, Petroleum geochemistry of the Dnieper-Donets basin, Ukraine [abs.]: American Association of Petroleum Geologists Annual Convention Official Program, v. 5, p. A27.

YUGOSLAVIA (former; see also Serbia)

- Feder, G.L., Orem, W.H., Finkelman, R.B., 1996, Effects of leachates from Pliocene lignites in the balkan peninsula on human health [abs.]: 30th International Geologic Congress Abstracts v. 3, p. 410.
- Feder, G.L., Radovanovic, Z., and Finkelman, R.B., 1991, Relationship between weathered coal deposits and the etiology of Balkan endemic nephropathy: Kidney International, v. 40, suppl. 34, p. s9 s11.
- Finkelman, R.B., Feder, G.L., Orem, W.H., Radovanovic, Z., 1991, Relation between low-rank coal deposits and Balkan endemic nephropathy: Association of Geoscientists for International Development Newsletter, no. 65, p. 23.
- Orem, W.H., Feder, G.L., and Finkelman, R.B., in prep, A possible link between Balkan Endemic Nephropathy and leaching of toxic organic compounds from Pliocene lignites by groundwater: International Journal of Coal Geology special issue.

WORLD COAL

- Finkelman, R.B., in press, "Airtoxics" from coal combustion: Implications for global fossil fuel use [abs.]: The Society for Organic Petrology 15th annual meeting, July 26-30, 1998.
- Landis, E.R., and Weaver, J.N., 1993, Global coal occurrence, in Law, B.E., and Rice, D.D., eds., Hydrocarbons from coal: American Association of Petroleum Geologists Studies in Geology 38, p. 1-12.
- Lyons, P.C., 1997, Report on the 49th Meeting of the International Committee for Coal and Organic Petrology (ICCP) (Wellington, New Zealand, October 20-24, 1997): The Society for Organic Petrology Newsletter, v. 14, no. 4, p. 15-17.
- SanFilipo, J.R., and Warwick, P.D., 1995, International coal-related studies of the U.S. Geological Survey, and their environmental applications, *in* Carter, L.M.H., ed., Energy and the environment application of geosciences to decision-making, Program and short papers, Tenth V.E. Mckelvey Forum on Mineral and Energy Resources, 1995: U.S. Geological Survey Circular 1108, p. 75 77.
- SanFilipo, J.R., and Warwick, P.D., 1995, Selected worldwide coal activities of the U.S. Geological Survey, with emphasis on their environmental applications, *in* Shiao-Hung Chiang, ed., Coal energy and the environment, Twelfth Annual International Pittsburgh Coal Conference, September 11-15, 1995, Proceedings: University of Pittsburgh Center for Energy Research, p. 526-531.
- Warwick, P.D., Landis, E.R., Roberts, S.B., and Johnson, E.A., 1993, Worldwide coal-related activities of the U.S. Geological Survey, *in* Shiao-Hung Chiang, ed., Coal energy and the environment, Tenth Annual International Pittsburgh Coal Conference, September 20-24, 1993, Proceedings: University of Pittsburgh Center for Energy Research, p. 1052-1055.